

AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in the application. Please cancel non-elected claims 8-12 without prejudice or disclaimer, amend claims 1 and 13, and add new claims 20 and 21, as follows:

1. (Currently Amended) Single input power control apparatus for controlling a powerplant, comprising:

an input means for generating ~~[[a]]~~ an output power command; and

a processor, coupled to said input means, for

(i) receiving the generated output power command,

(ii) receiving a plurality of detected ambient air conditions,

(iii) receiving a plurality of detected powerplant performance parameters,

(iv) determining first and second powerplant control commands based on the received output power command, the detected ambient air conditions, and the powerplant performance parameters, and

(v) outputting first and second output signals respectively corresponding to the first and second powerplant control commands.

2. (Original) Apparatus according to Claim 1, wherein said detected ambient air conditions include humidity and air pressure.

3. (Original) Apparatus according to Claim 1, wherein said first powerplant control command comprises a powerplant speed command, and wherein said second powerplant control command comprises a powerplant load command.

4. (Original) Apparatus according to Claim 3, wherein said powerplant load command comprises a manifold air pressure command.

5. (Original) Apparatus according to Claim 4, wherein said powerplant speed command comprises a gear box RPM command.

6. (Original) Apparatus according to Claim 5, wherein said plurality of detected engine performance parameters include gear box RPM and manifold air pressure.

7. (Original) Apparatus according to Claim 1, wherein said processor

- (i) stores plural sets of first and second powerplant control parameters which yield highest output power efficiency for detected ambient air conditions and output power commands, and
- (ii) selects the one set of first and second powerplant control commands which corresponds to the detected ambient air conditions and the received output power command.

Claims 8-12 (Canceled).

13. (Currently Amended) Single input power control apparatus for controlling a ground vehicle, comprising:

an input means for generating [[a]] an output power command; and

a processor, coupled to said input means, for

- (i) receiving the generated output power command,
- (ii) receiving a plurality of detected ambient air conditions,
- (iii) receiving a plurality of detected engine performance parameters,
- (iv) determining first and second engine control commands based on the received output power command, the detected ambient air conditions, and the engine performance parameters, and
- (v) outputting first and second output signals respectively corresponding to the first and second engine control commands.

14. (Original) Apparatus according to Claim 13, wherein said detected ambient air conditions include ground speed and air pressure.

15. (Original) Apparatus according to Claim 13, wherein said first engine control command comprises an engine speed command, and wherein said second engine control command comprises an engine load command.

16. (Original) Apparatus according to Claim 15, wherein said engine load command comprises a manifold air pressure command.

17. (Original) Apparatus according to Claim 16, wherein said engine speed command comprises a gear box RPM command.

18. (Original) Apparatus according to Claim 17, wherein said plurality of detected engine performance parameters include gear box RPM and manifold air pressure.

19. (Original) Apparatus according to Claim 13, wherein said processor

(i) stores plural sets of first and second engine control parameters which yield highest output power efficiency for detected ambient air conditions and output power commands, and

(ii) selects the one set of first and second engine control commands which corresponds to the detected ambient air conditions and the received output power command.

20. (New) A system for controlling a power generation system, the system comprising:

an input device configured to generate an output power command; and
a processor operably associated with the input device, the processor being configured to

receive the output power command,

receive an ambient air condition,

receive a power generation system performance parameter,

determine a power generation system control command yielding a highest output power efficiency based on the ambient air condition and the output power command, and

store the power generation system control command and at least one of the ambient air condition, the power output command, and the power generation system performance parameter.

21. (New) A system for controlling a power generation system, the system comprising:

an input device configured to generate a signal indicative of a desired power output of the power generation system; and

a processor operatively associated with the input device, the processor being configured to

receive at least one signal indicative of an ambient air condition and at least one signal indicative of a performance parameter related to the power generation system, and

output at least one power generation system control command based on the at least one signal indicative of an ambient air condition and the at least one signal indicative of a performance parameter related to the power generation system,

wherein the at least one power generation system control command is configured to optimize the efficiency of the power generation system based on at least one of the at least one signal indicative of an ambient air condition, the at least one signal indicative of a performance parameter related to the power generation system, and the signal indicative of a desired power output of the power generation system.